

ABSTRACT OF THE DISCLOSURE

The liquid sensing system for an aircraft cooler includes a middle liquid level sensor for detecting a middle liquid level of a working fluid, a liquid temperature sensor, a ventilation controller for generating a flight phase signal  
5 indicative of a flight phase of the aircraft, and a recirculation unit annunciating a working fluid system leak condition based on the middle liquid level, the liquid temperature, and the flight phase. The recirculation unit only evaluates the working fluid system leak condition during a ground flight phase and a cruise flight phase. A bottom liquid level, pressure in a working fluid accumulator and discharge  
10 pressure are also determined, and a no working fluid failure condition is annunciated based on the bottom liquid level signal, the accumulator pressure signal, and the discharge pressure signal.